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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,524	02/09/2004	Jerry Wu		1035

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EXAMINER

TSUKERMAN, LARISA Z

ART UNIT	PAPER NUMBER
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2833

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/775,524

Applicant(s)

WU, JERRY

Examiner

Larisa Z Tsukerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-21 is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Other: Attachments 1 and 2.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1 – 5 and 7** are rejected under 35 U.S.C. 102(b) as being anticipated by Lai (6129594).

**Claim 1**, Lai discloses an electrical connector, comprising:

an insulative housing 1 defining a plurality of passageways 16 extending therethrough and a pair of keys 13 extending rearwardly from two opposite sides thereof;

a plurality of contact units 3 received in corresponding passageways 16, each contact unit having at least one mating portion 31 and a tail portion 32 opposite to the at least one mating portion; and

a spacer 4, 5', 6' attached to the insulative housing and comprising a body B (not marked, see Attachment 1) portion and a supporting portion SP (not marked, see area 45, 451 in Attachment 1) projecting from the body portion, the body portion B defining a plurality of through holes 44 communicating with the passageways 16 for insertion of the contact units 3 therethrough and a pair of keyways KW(not marked, see area 43, 431 in Attachment 1) on opposite sides thereof.

**Claim 2**, Lai discloses the spacer defines a gap G (see Attachment 1) between the supporting portion SP 45,451 and the body B portion.

**Claim 3**, Lai discloses the supporting portion SP defines a plurality of grooves 451 in a top surface thereof.

**Claim 4**, Lai discloses the keyway KW has a protruding rib 43 in an inner wall thereof.

**Claim 5**, The electrical connector as claimed in claim 1, wherein the spacer 4, 5', 6' has a pair of platforms 5' and 6' protruding upwardly from a top-side of the body portion B along a front surface thereof.

**Claim 7**, Lai discloses the insulative housing has a top wall, a bottom wall, opposite sidewalls and a rear wall, which together define a receiving space (see Fig. 1)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lai (6129594) in view of Carlson et al. (4062611).

Lai discloses most of the claimed invention except for the spacer 4, 5', 6' further comprises a plurality of protrusions projecting respectively from a front surface of the body portion B, and wherein the insulative housing 1 defines a plurality of apertures for latching with the protrusions. Carlson teaches a plurality of protrusions 39 projecting

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respectively from a front surface of the body portion 33, and wherein the insulative housing 29 defines a plurality of apertures 40 for latching with the protrusions 39.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use protrusions 39 and apertures 40 of Carlson in structure of Lai in order to secure a spacer to the housing firmly, provide additional engagement between the housing and the spacer and prevent disengagement between them.

**Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lai (6129594) in view of Lee (6129581).

Lai discloses most of the claimed invention except for the tail portion of the contact unit 3 has a U-shaped configuration and extends along a top face of the supporting portion.

Lee teaches a U-shaped configuration of the tail portion to crimp the wire 421.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made and for the same reason to include a U-shaped configuration of the tail portion of Lee if needed to crimp the wire.

**Claims 11, 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai (6129594) and Lee (6129581), as applied to claims 1 and 10, and further in view of Sato (6196886).

**In regard to claim 11**, Lai, when modified by Lee, discloses most of the claimed invention (including the base portion and the U-shaped tail portion extending rearwardly from a rear edge of the base portion), except for the contact unit has a fork-shaped configuration and further comprises three retention portions extending forwardly from

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the base portion, three mating portions extending forwardly from corresponding retention portions. Sato teaches the contact unit 1 has a fork-shaped configuration and further comprises three retention portions RP (not marked, see Attachment 2) extending forwardly from the base portion 4, three mating portions 1a extending forwardly from corresponding retention portions RP (see Fig.2 and Col.1, lines 60-65 and Abstract, lines 7-9) in order to be allotted to an electric power supply and freed of any adverse effect (Col.1, line 66). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made and for the same reason to include a fork-shaped configuration contact comprising three retention portions RP of Sato in Lai structure.

**In regard to Claim 12**, Lai and Lee,, when modified by Sato, disclose each retention portion RP forms a plurality of barbs (not marked, see Fig. 2) on two opposite sides thereof.

**Claims 13-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai (6129594) in view of Cheng (US 20040097132).

**Lai** discloses a cable end connector assembly adapted for mating with a complementary electrical connector, comprising:

- a housing 1 defining a plurality of passageways 16 and having at least one key 13;
- a plurality of contact units 3 received in the passageways 16;

a spacer 4 comprising a plurality of through holes 44, a supporting portion SP (see Attachment 1) supporting the contact units 3 and at least one keyway KW receiving the at least one key 13;

However, Lai is missing a plurality of wires each comprising a conductive core electrically connecting with a corresponding contact unit; and a cover over-molded with a rear end of the housing and front ends of the wires. Cheng teaches a plurality of wires 60 each comprising a conductive core electrically connecting with a corresponding contact unit 3; and a cover 5 over-molded with a rear end of the housing and front ends of the wires. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a connector of general type shown by Lai with **wire attachment** as this would be another way to supply signals to equipment, as taught by Cheng, and **include a cover** of Cheng in Lai structure in order to protect housing and contacts from the dust and humidity of environment.

**Claim 14**, Lai discloses the at least one key 13 is disposed in a side of the housing 1.

**Claim 15**, Lai discloses the spacer 4 comprises a body portion B (see Attachment 1) and opposite side portions in two opposite sides 411 of the body portion B (see Attachment 1).

**Claim 16**, Lai discloses the supporting portion SP projects from the body portion B and connects with the side portions 411.

**Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lai (6129594) in view of Cheng (US 20040097132), as applied to claim 13 above, and further in view of Lee (6129581) and Sato (6196886).

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Lai, when modified by Cheng, discloses most of the claimed invention (including the base portion), except for the contact unit has

1) a U-shaped tail portion extending rearwardly from a rear edge of the base portion and

2) a fork-shaped configuration and further comprises three retention portions extending forwardly from the base portion, three mating portions extending forwardly from corresponding retention portions.

Lee teaches a U-shaped configuration of the tail portion to crimp a wire 421. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a U-shaped configuration of the tail portion of Lee in Lai structure to crimp the wire.

Sato teaches the contact unit 1 has a fork-shaped configuration and further comprises three retention portions RP (not marked, see Attachment 2) extending forwardly from the base portion 4, three mating portions 1a extending forwardly from corresponding retention portions RP (see Fig.2 and Col.1, lines 60-65 and Abstract, lines 7-9) in order to be allotted to an electric power supply and freed of any adverse effect (Col.1, line 66). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made and for the same reason to include a fork-shaped configuration contact comprising three retention portions RP of Sato in Lai structure.

***Allowable Subject Matter***

Claims 18-21 are allowed.



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The following is an examiner's statement of reasons for allowance:

**In regard to claim 18**, the prior Art does not teach or suggest a connector comprising **a cover overmolded on the housing and the cable**; wherein the cover veils the bar formed on a face of the housing along a direction perpendicular to the front-to-back direction and includes at least one transverse beam extending along the front-to-back direction and engaged with the bar in at least one direction perpendicular to the front-to-back direction, and wherein the transverse beam cooperates with other portions of the bar to circumferentially grasp the bar in a cross-sectional view taken along a vertical plane in the front-to-back direction.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Larisa Z Tsukerman whose telephone number is (571)-272-2015. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A Bradley can be reached on (571)-272-2800 ex. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT  
09/05/2004



**THO D. TA**  
**PRIMARY EXAMINER**